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March 8, 2004

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Attest



US005401305A

**United States Patent** [19]**Russo et al.**[11] **Patent Number:** **5,401,305**[45] **Date of Patent:** **Mar. 28, 1995**[54] **COATING COMPOSITION FOR GLASS**[75] **Inventors:** **David A. Russo, Norristown; Ryan R. Dirkx, Glenmoore, both of Pa.; Glenn P. Florezak, East Brunswick, N.J.**[73] **Assignee:** **Elf Atochem North America, Inc., Philadelphia, Pa.**[21] **Appl. No.:** **104,125**[22] **Filed:** **Dec. 13, 1993****Related U.S. Application Data**

[63] Continuation-in-part of Ser. No. 814,366, Dec. 26, 1991, abandoned, and a continuation-in-part of Ser. No. 814,352, Dec. 27, 1991, abandoned.

[51] **Int. Cl.<sup>6</sup>** ..... **C09D 5/00**[52] **U.S. Cl.** ..... **106/287.1; 106/287.13; 106/287.14; 106/287.15; 106/287.16**[58] **Field of Search** ..... **106/287.13, 287.14, 106/287.15, 287.16, 287.1**[56] **References Cited****U.S. PATENT DOCUMENTS**

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## [57]

**ABSTRACT**

A composition for coating glass by chemical-vapor deposition comprises a mixture of a tin oxide precursor monobutyltin trichloride, a silicon dioxide precursor tetraethylorthosilicate, and an accelerant such as triethyl phosphite; the composition is gaseous below 200° C., and permits coating glass having a temperature from 450° to 650° C. at deposition rates higher than 350 Å/sec. The layer of material deposited can be combined with other layers to produce an article with specific properties such as controlled emissivity, refractive index, abrasion resistance, or appearance.

**27 Claims, No Drawings**